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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

VASISTH, VISHAL V

ART UNIT

PAPER NUMBER

1797

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DELIVERY MODE

12/04/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/533,710	Applicant(s) ARIMOTO ET AL.	
	Examiner VISHAL VASISTH	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/22/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicants' amendments filed on 7/28/2008 overcame the objections to the specification 35 USC 101/112 rejection to claim 11. Claims 3, 7, 10 and 12 were also amended and claim 13 was added. A new 35 USC 103 grounds of rejection are set forth below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-4, 6, 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al., US Patent Application Publication No. 2001/0010293 (hereinafter referred to as Ishida '293).

Ishida '293 discloses traction drive fluids which are suitably used in continuously variable transmissions of traction drive type of automobiles comprising, a naphthenic

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compound, a mineral oil (as recited in component (A) of claim 1) a viscosity index improver, an ashless dispersant, a friction modifier and a metallic detergent. The ashless dispersants are nitrogen-containing compounds having at least one alkyl or alkenyl group having 40 to 400 carbon atoms (Para. [0138] and [0146]-[0147]) and/or bis-types having two alkyl or alkenyl groups having 40 to 400 carbon atoms (Para. [0158] and Para. [0254/Table 2) (as recited in claims 2 and 6) and can be modified products of succinimide derivatives. The nitrogen-containing compound can further be treated with a boron compound such as boric acid to form a borated dispersant (Para. [0156]). The nitrogen-containing compound is present in the fluid in a range between 0.01 to 10 mass% (Para. [0141]). Based on the number of carbon atoms of the alkyl or alkenyl substituents and the mass% of the dispersant in the fluid there is an overlap between the molecular weight of the alkyl or alkenyl groups and nitrogen content percentage as recited in component (B) of claim 1 as well as boron content based on the range of possibilities as discussed above and recited in claim 3.

The nitrogen-containing compound of Ishida '293 can in certain embodiments be a borated succinimide having average molecular weight of 4,500 (as recited in claim 4) (Para. [0254]/Table 4).

The viscosity index improver of Ishida '293 include non-dispersion type and dispersion –type polymethacrylates (Para. [0129]) wherein the polymethacrylates have a molecular weight of 5,000 to 150,000 (which overlaps the range as recited in component (C) of claim 1) (as recited in claim 13).

Ishida '293 does not explicitly disclose the viscosity index or the kinematic viscosity of the fluid but based on fluids 9 and 12 in table 3, paragraph 0251 wherein the kinematic viscosity at 100°C is 5.0 mm²/s with the polymethacrylate viscosity index improver present in the fluid it is the position of the examiner that the fluid would inherently possess a viscosity index of 160 or more and a kinematic viscosity at 40 °C in the range of 20 to 30 mm²/s based on the type of traction fluid used and the amount of the viscosity index improver.

Claim Rejections - 35 USC § 103

5. Claims 1-5, 7-8 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hata et al., US Patent Application Publication No. 2002/0165102 (hereinafter referred to as Hata) in view of Bryant et al. US Patent Application Publication No. 2002/0032293 (hereinafter referred to as Bryant).

Hata discloses a lubricant composition comprising a base oil such as synthetic oils in an amount of at least 80 wt% (as recited in component (A) of claim 1) (Para. [0017]-[0018]), a boron-containing imide dispersant (nitrogen-containing compound as recited in component (B) of claim 1) having a weight average molecular weight in the range of 500 to 3,000 (Para. [0019]) (which overlaps with component (B) of claim 1 and the range as recited in claim 4) wherein the boron-containing imide dispersant is present in an amount of 0.01 to 0.027 wt% (103 to 270 ppm) in terms of the content of nitrogen of the total composition (Para. [0068]/Table 1-1). The boron content in the lubricant composition ranges from 0.0066 to 0.02 wt% (66 to 200 ppm) (which overlaps with the range as recited in claim 3) (Para. [0068]/Table 1-1). The ratio by weight of

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boron to nitrogen (B/N) based on the boron-containing imide dispersant is in the range of 0.1 to 1.5 (which overlaps with the range recited in claim 7) (Para. [0019] and Para. [0068]/Table 1-1).

Hata also discloses a bispolyalkenyl or polyalkyl succinimide especially a borated polybutenyl succinimide (as recited in claim 8) (Para. [0027]-[0028]) dispersant having a weight-average molecular weight in the range of 500 to 3,000 (which overlaps with the range as recited in claims 2, 5 and 8) (Para. [0021] and [0025]).

Hata further discloses the lubricating oil composition enhances peeling resistant durability for a friction material, especially a cellulose base wet friction material without impairing the wear resistance or scoring resistance of a steel material element and thus is used in a cellulose base friction material for a starting and running device and a transmission clutch that are employed in an automatic transmission of an automobile (as recited in claims 10-12) (Para. [0053]).

The composition of Hata discloses the use of additives such as phosphorus and sulfur-based compounds and other additives that are well known in the art but does not explicitly disclose the use a viscosity index improver with a molecular weight of 40,000 or less. The lubricating oil compositions of Hata are prepared by blending a mineral oil having a kinematic viscosity of 30.7 mm²/s at 40°C, and 5.25 mm²/s at 100°C and a viscosity index of 104 (Para. [0067]).

Bryant discloses a polymethacrylate ester based dispersant-viscosity improver for lubricating oil compositions comprising units derived from alkyl acrylate ester monomers with 2 to 11 carbons, alkyl acrylate ester monomers with 12 to 24 carbons

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and one nitrogen containing monomer (see Abstract) wherein the copolymers of Bryant have a number average molecular weight ranging from 10,000 to about 300,000 (which overlaps with the range as recited in component (c) of claim 1) (Para. [0056]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Hata with the viscosity index improver of Bryant in order to reduce the tendency of oil to change viscosity with temperature changes. By the addition of the Bryant viscosity index improver the overall composition of Hata will be within a range wherein the viscosity index and kinematic viscosity of the composition are 160 and 20 to 30 mm²/s respectively (as recited in component (c) of claim 1) (Para. [0105] of Bryant).

Claim Rejections - 35 USC § 103

6. Claims 1 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al., US Patent Application Publication No. 2002/0072478 (hereinafter referred to as Ishida '478).

Ishida '478 discloses a lubricant composition comprising a lubricant base oil (component (A) of claim 1), a borated polybutenyl bis-type succinimide dispersant wherein the weight average molecular weight of the polybutenyl group is 1,100 (nitrogen-containing compound having a number average molecular weight of 900 or more as recited in component (B) of claim 1) (Para. [0099]). Ishida '478 does not explicitly disclose the nitrogen content but based on the molecular weight of the dispersant and other lubricant additives and the amount which the additives containing nitrogen are present in the composition there is overlap with the range as recited in component (B) of claim 1.

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The composition of Ishida '478 further discloses a viscosity index improver which is a polymethacrylate having a molecular weight in the range of 5,000 to 150,000 (which overlaps with the range as recited in component (c) of claim 1) (Para. [0059]). The composition further discloses that the base oil can be a hydro-refined mineral oil which has a kinematic viscosity at 100°C of 4 mm²/s and a viscosity index of 120 (Para. [0106]). It is the position of the examiner that with the addition of the viscosity index improver the overall composition of Ishida '478 will be within a range wherein the viscosity index and kinematic viscosity of the composition are 160 and 20 to 30 mm²/s respectively (as recited in component (c) of claim 1).

The fully formulated composition of Ishida '478 further discloses the use of additives such as ashless dispersants, such as polybutenyl borated bis-type succinimide dispersants separate from the dispersants described above. Wherein these succinimides have a weight average molecular weight of 700 to 3,500 (Para. [0057]).

Response to Arguments

7. Applicants' arguments filed 7/28/2008 have been fully considered and are persuasive but are moot in light of the new grounds of rejections. Ishida teaches a bis-type polybutenyl succinimide dispersant along with a polymethacrylate viscosity index improver.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VISHAL VASISTH whose telephone number is (571)270-3716. The examiner can normally be reached on M-R 8:30a-5:30p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571)272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ellen M McAvoy/

Primary Examiner, Art Unit 1797

VVV